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232879

TIMOTHY RAMSEY

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November 20, 2001

BY MESSENGER

Mary L. Fulghum, Esq.
Associate Regional Counsel, Region 5
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, Illinois 60604

Re: **GMO Site, 341 East Ohio Street, Chicago, Illinois**

Dear Mary:

Enclosed are four copies of the preliminary letter report dated November 20, 2001 from STS Consultants, Ltd. ("STS") directed to me concerning the preliminary results of STS' investigation of pesticides and radiological materials in the vicinity of the former hazardous waste storage facility operated by Velsicol Chemical Company at 341 East Ohio Street, Chicago, Illinois. Please note that this report is preliminary only and has been prepared by STS before all laboratory data are available. STS will prepare a full report of its investigation after all of the laboratory test results have been received. However, this preliminary report provides some information about the nature and extent of the pesticide contamination in the vicinity of Velsicol's former hazardous waste storage area. I will call you about this matter next week.

Very truly yours,

A handwritten signature in black ink, appearing to read "Timothy Ramsey".

Timothy Ramsey

JTR:mmz

Enclosures

cc: Gaylene Vasaturo, Esq. (w/enc. - by messenger)
Mr. Thomas J. Pabian (w/out enc. - by telecopy)
Mr. Terry A. McKay (w/out enc. - by telecopy)
Steven L. Loren, Esq. (w/out enc.)
James T. Mayer, Esq. (w/out enc.)
Christina King Loundy, Esq. (w/enc.)

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STS CONSULTANTS, LTD.

**Status Report
Pesticide Investigation,
341 E. Ohio Site
Chicago, Illinois**

Piper, Marbury, Rudnick & Wolfe
203 N. LaSalle Street, Suite 1800
Chicago, Illinois 60601

STS Project No. 1-25585-XG
Correspondence No. 028
November 20, 2001





November 20, 2001

Mr. Timothy Ramsey
Piper, Marbury, Rudnick & Wolfe
203 N. LaSalle Street, Suite 1800
Chicago, IL 60601

RE: Status Report, Pesticide Investigation, 341, E. Ohio Site, Chicago, IL
STS Project Number 25585-XG, Task 3120. Correspondence No. 028

Dear Mr. Ramsey:

As you are aware, STS has recently completed the field portion of the additional investigation of pesticide impacted soils encountered at the above-referenced site. This letter provides a summary status report and presents findings available at present from this investigation. Please note that this report is preliminary only and is being provided before all laboratory data are available. A full report of this investigation will be submitted by STS under separate cover.

The drilling was proposed to investigate the detection of pesticides noted at this location in previous investigations. The borings were laid out to cover a boring location, B-3, where pesticides were detected in an earlier investigation (STS report dated October 8, 2001), the former location of underground storage tanks (USTs) where pesticides were detected in sampling for the closure of the tanks, and along the north margin of a former RCRA permitted hazardous waste storage area. Boring locations are shown on the attached Figure 1.

Drilling of the initially proposed ten borings, numbered P-1 through P-10, was completed November 8, 9, and 12, 2001. Ten locations were sampled with several offsets needed due to obstructions encountered in the subsurface. The borings extended to 10 feet, with the exception of P-1A, an offset from P-1, and P-10, which extended to 12 feet to penetrate a concrete slab or debris encountered at 10 to 11 feet. The slab at P-1 is assumed to be the tie-down slab for the USTs removed from the site at that location in 1988. The concrete at P-10 appeared to be rubble fill. The borings were continuously sampled in 2-foot intervals. All cuttings from the drilling were contained and segregated in accordance with the drilling plan. Those cuttings remain in a locked container on site.

The samples were field screened for pesticides using an immunoassay test procedure capable of delineating total pesticide concentrations in the following ranges: less than 20 ug/kg, 20 to 100 ug/kg, 100 to 600 ug/kg, and greater than 600 ug/kg. The greater than 600 ug/kg threshold is of interest as this concentration is 20 times the TCLP characteristic hazardous waste concentration for chlordane. The 20 times factor is the dilution involved in the TCLP protocol relative to the total analysis method.

The field immunoassay test results, presented in Table 1, show contamination at levels over the 600 ug/kg threshold in 8 of the 10 borings. Borings P-6 and P-7 were below this concentration on the field tests. The highest readings tend to be in the upper sample, 0-2 feet deep, but readings over the 600 ug/kg level extended to 8 feet deep in P-1, P-5 and P-9, and as deep as 10 feet in P-3 and P-10. These analyses also show the contamination extends beyond the limits of the drilling to the east, north and west, with possible limits defined only to the south and southwest.

The borings were also surveyed for elevated gamma radiation through downhole logging of each boring in 6-inch increments. These results are presented in Attachment A. These results show an interval of elevated gamma radiation approximately 1 to 2 feet thick, at depths from 1 to 4 feet, generally from 1 to 2.5 or 3 feet deep. This zone lies within the zone impacted by pesticides in borings P-1, -2, -4, -5, and -6. Please note however, that in P-6 a second interval of elevated gamma radiation was identified between 6 and 7.5 feet below ground surface. See the attached Figure 1 for the boring locations.

Piper, Marbury, Rudnick & Wolfe
STS Project No. 1-25585-XG, Correspondence No. 028
November 20, 2001
Page 2

Soil samples were sent to an off-site laboratory for measurement of the total pesticides concentrations, which provides concentrations for individual pesticides. Twenty different pesticides were identified in these analyses. Data on the full suite of pesticides tested are provided on Table 2. These laboratory data generally agree with the field data on total pesticide concentrations. The maximum concentration of chlordane is 120,000 ug/kg, with 18 samples from 8 different borings (P-1 through P-5, and P-8 through P-10) showing levels over 1,000 ug/kg chlordane.

Eight borings, P-1, -2, -3, -4, -5, -8, -9, and -10, exhibit total chlordane levels more than 20 times the TCLP characteristic hazardous waste threshold. These samples will be analyzed by TCLP. Several of these borings also exceeded 20 times the TCLP threshold for other pesticides: Heptachlor in P-2, -3, -4, -5, -8, -9, and -10; heptachlor epoxide in P-3, -4, -5, and -10; and endrin in P-3 and -5.

Pesticide concentrations in several borings also exceed 10 times the Universal Treatment Standards (UTS) for land-banned wastes, requiring the material be treated before disposal. These compounds and borings are: Heptachlor in P-2, -3, -4, -5, -8, and -10; heptachlor epoxide in P-4; gamma-BHC (Lindane) in P-3, -5, and -9; gamma-chlordane in P-3, -4, and -10; and endrin in P-3. Figures showing the distribution of pesticides exceeding 20 times the TCLP level for classification as hazardous waste in the total analysis and exceeding 10 times the UTS are presented as Figures 2 through 10. Table 3 lists the TCLP characteristic hazardous waste concentration and the UTS values for those compounds that have values established. Additionally, the 20 times TCLP values and 10 times UTS values are shown on Table 3.

We are continuing to seek information from contractors regarding the available options for treatment and disposal of the mixed waste and the pesticide contaminated soil. These treatment and disposal options will be provided to you in a separate memorandum. We understand that the disposal of any radiologically impacted material is to be limited to EnviroCare of Utah.

Note that this letter is a progress status report of findings to date. A formal report of finding will be prepared when complete data are available.

Please contact us with any questions you may have regarding the attached information.

Regards,

STS CONSULTANTS, LTD.



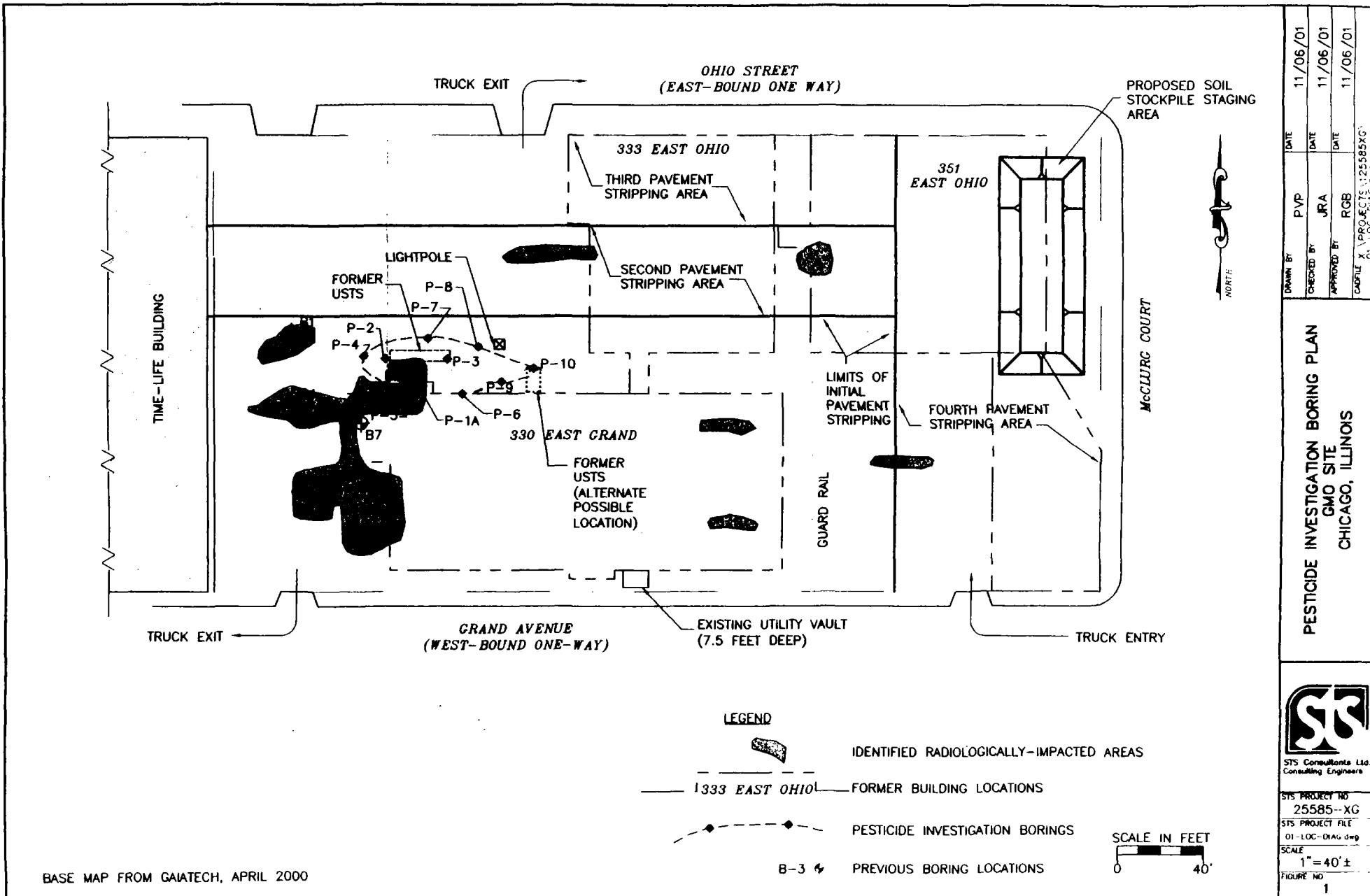
Julie Apolinario
Senior Project Manager

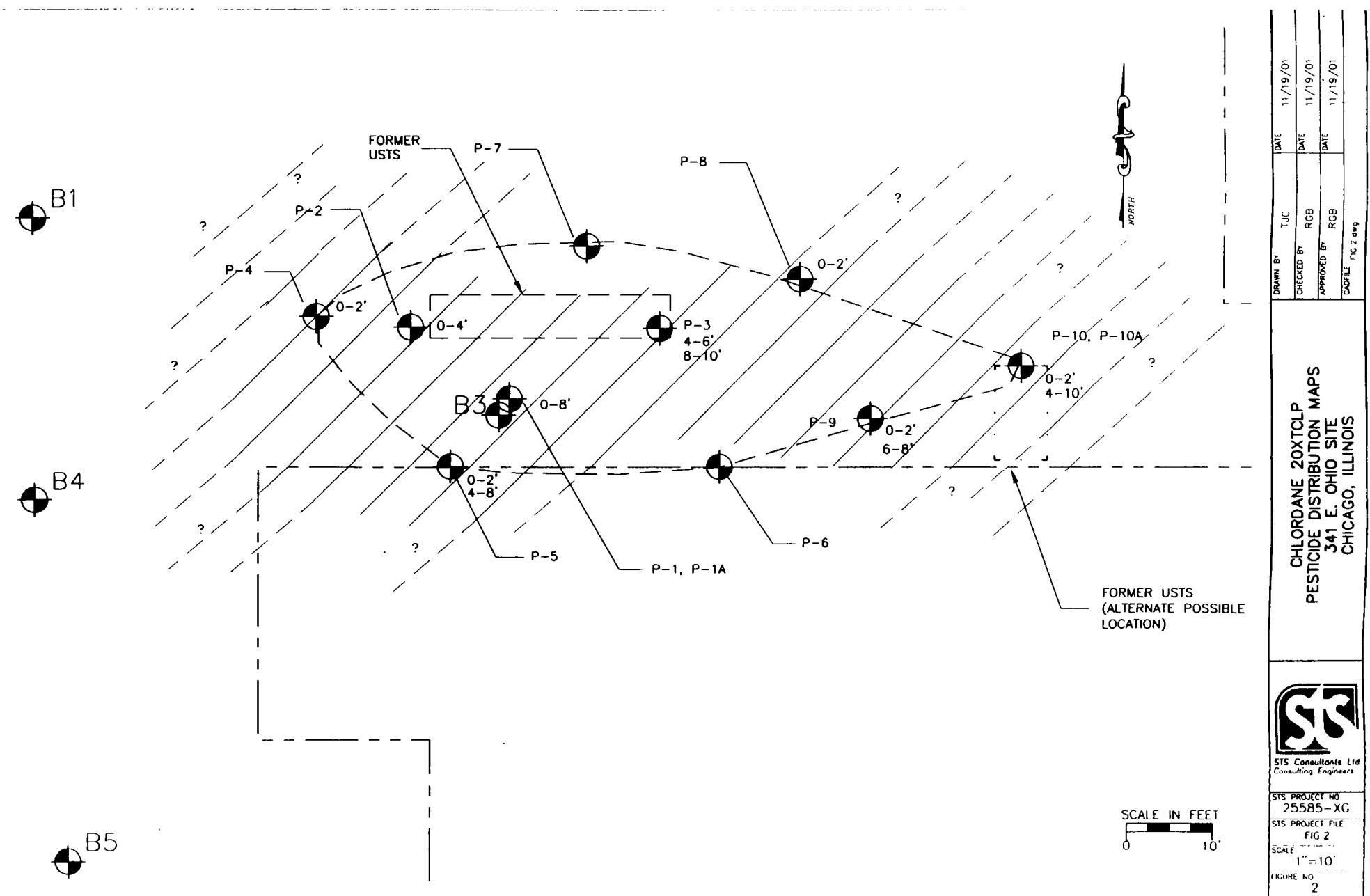


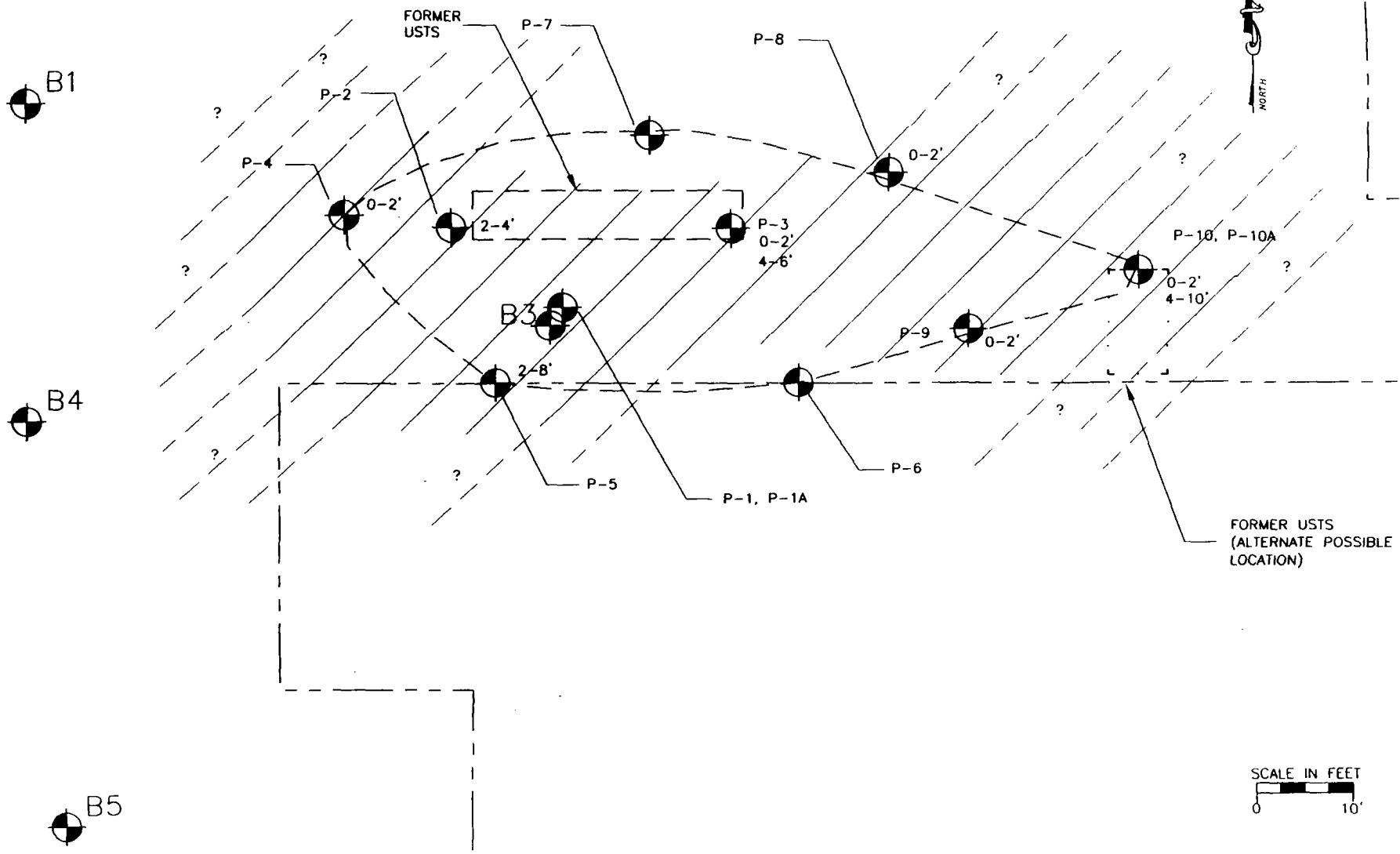
Richard G. Berggreen, C.P.G.
Principal Geologist

Attachments: Figures
Tables
Attachment A

Figures





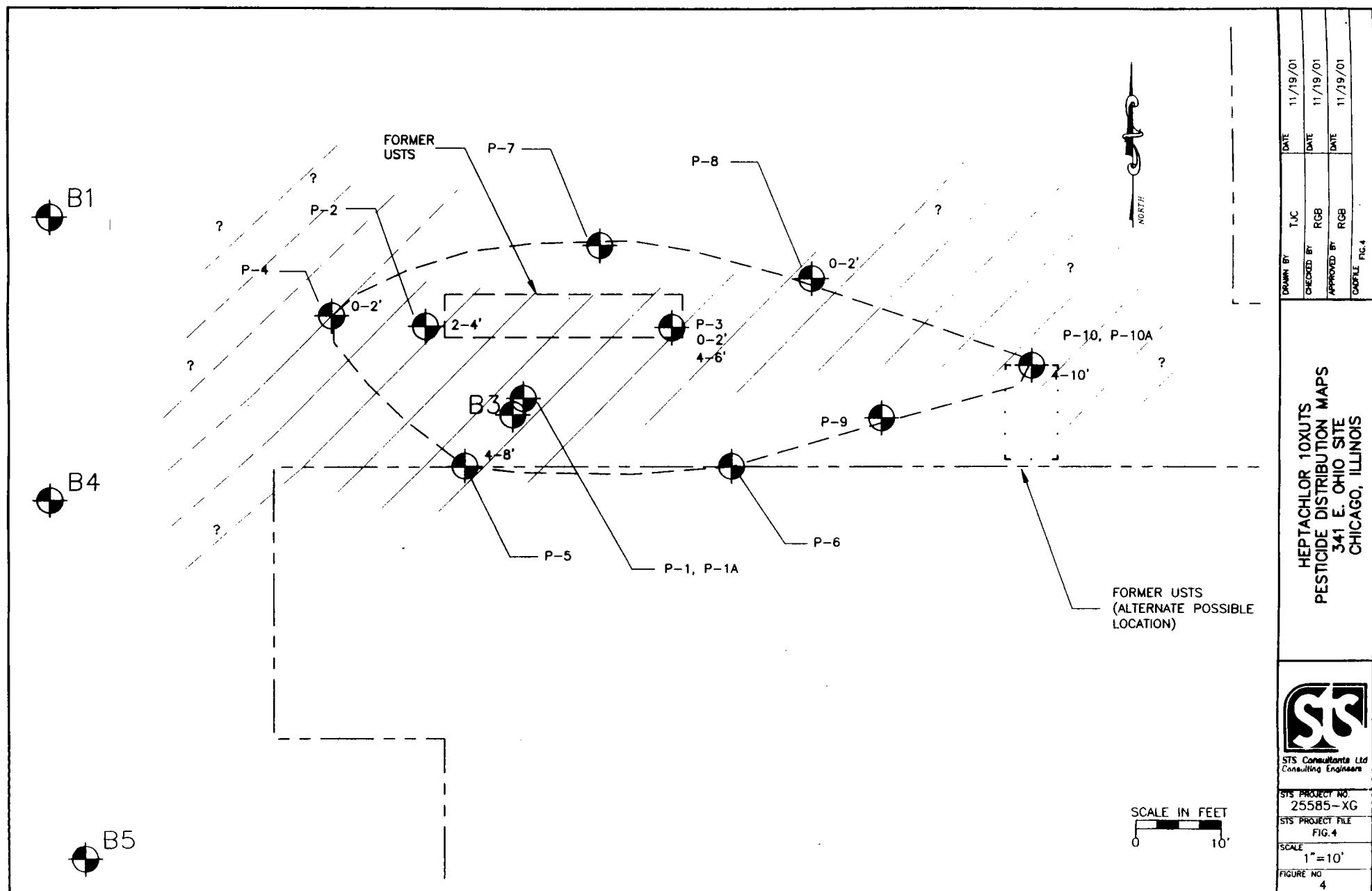


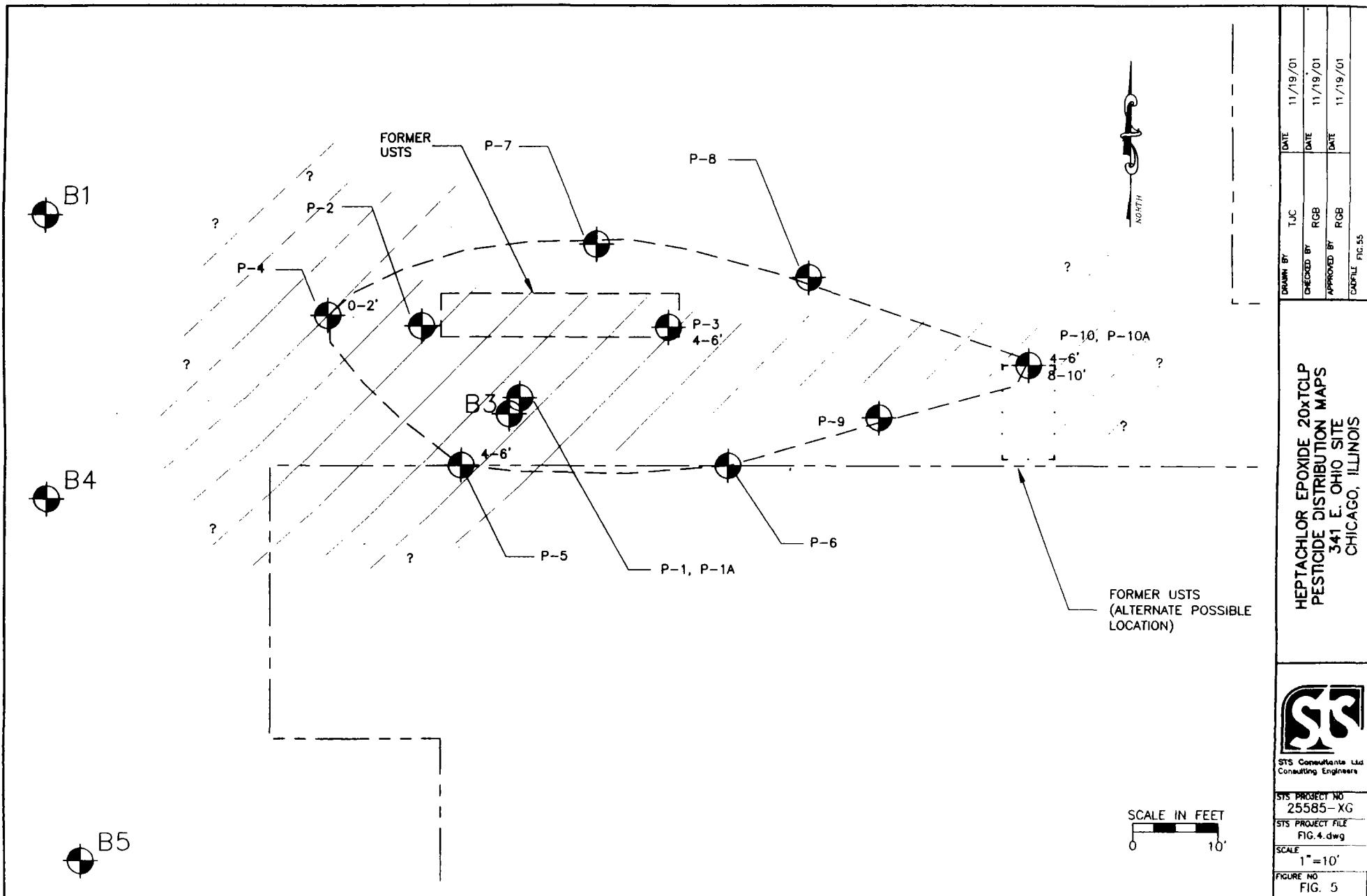
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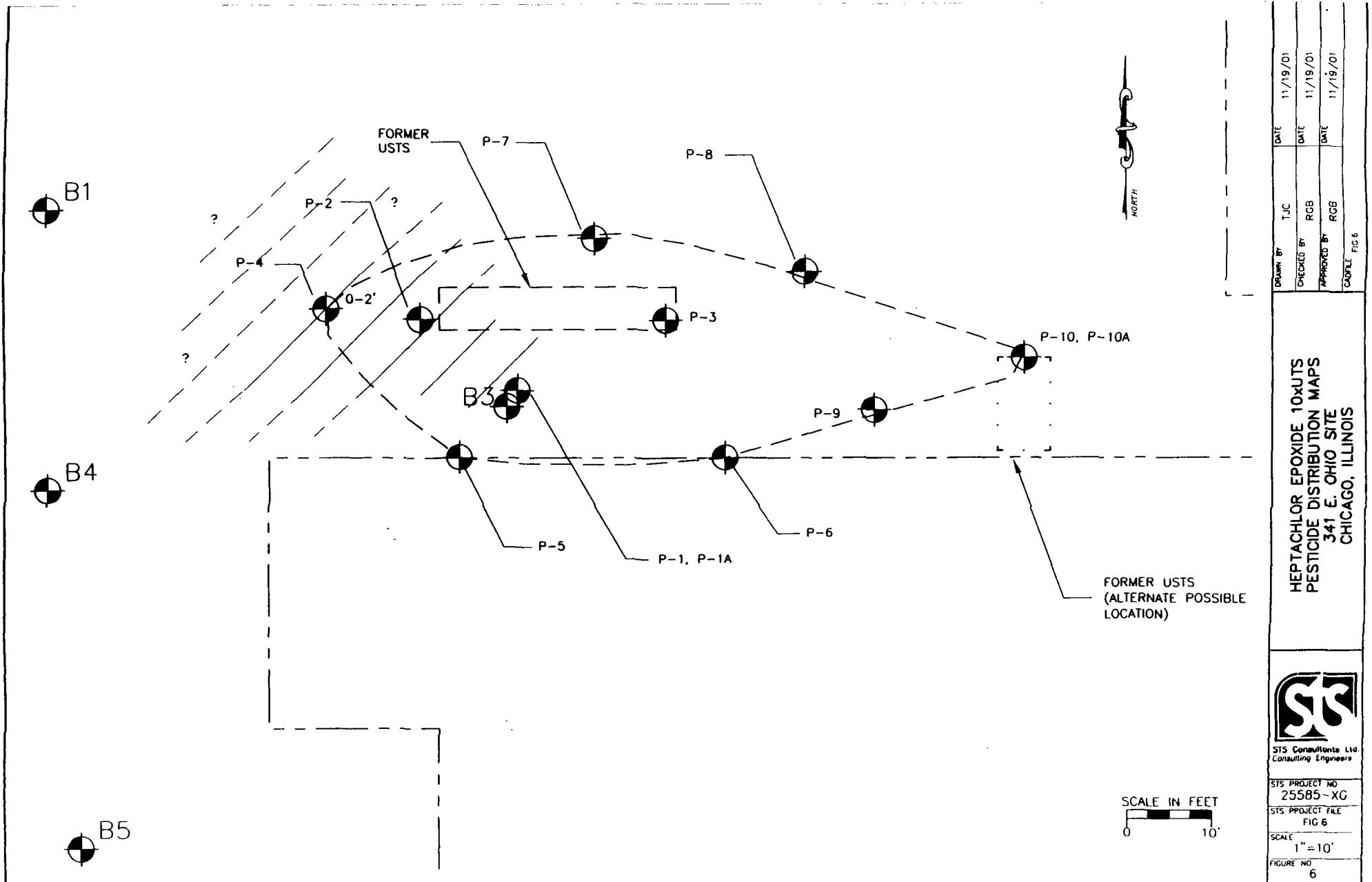
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 PESTICIDE DISTRIBUTION MAPS
 341 E. OHIO SITE
 CHICAGO, ILLINOIS

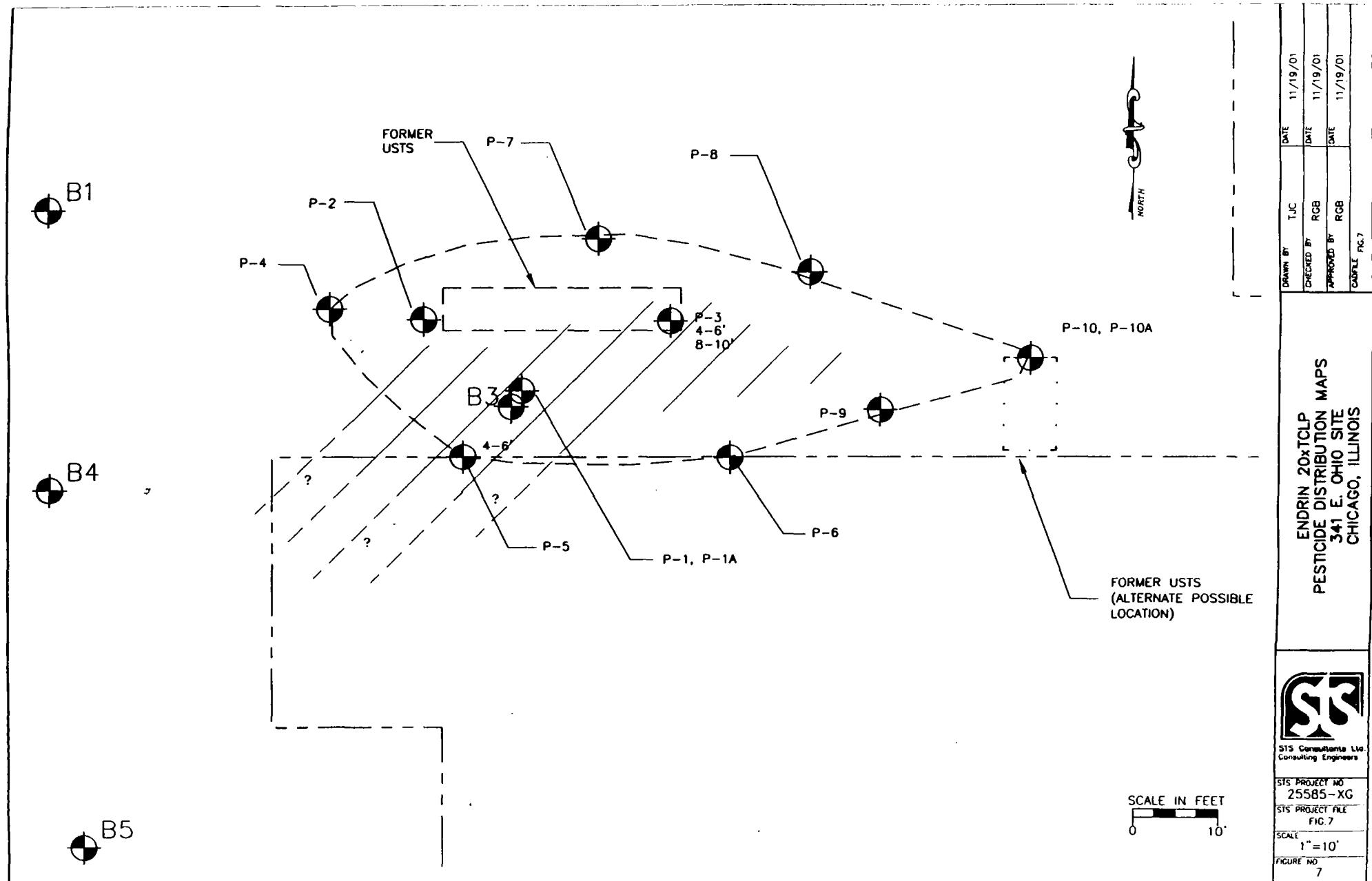
STS Consultants Ltd.
 Consulting Engineers

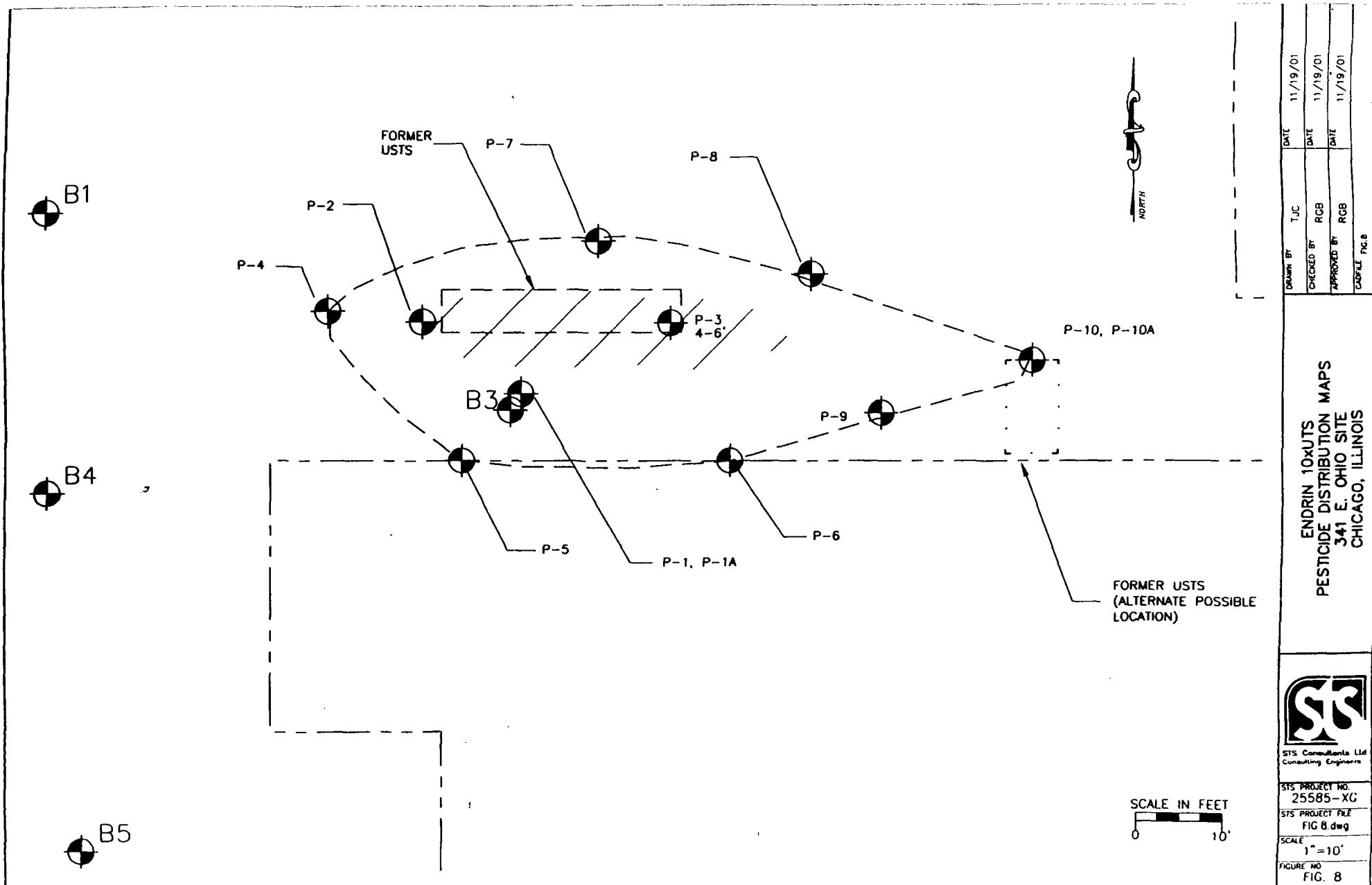
STS PROJECT NO
 25585-XG
 STS PROJECT FILE
 FIG 3
 SCALE
 1"=10'
 FIGURE NO
 3

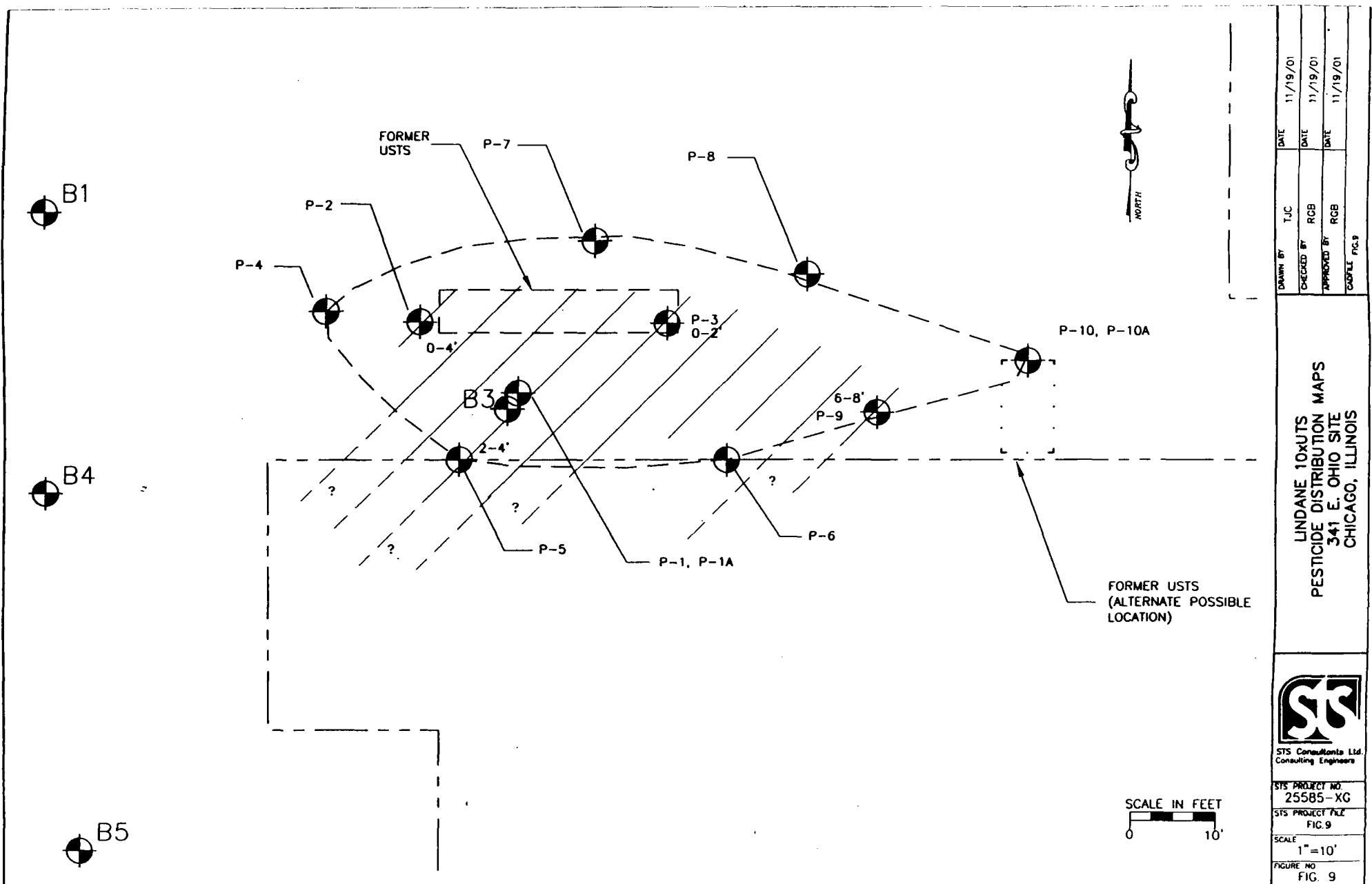


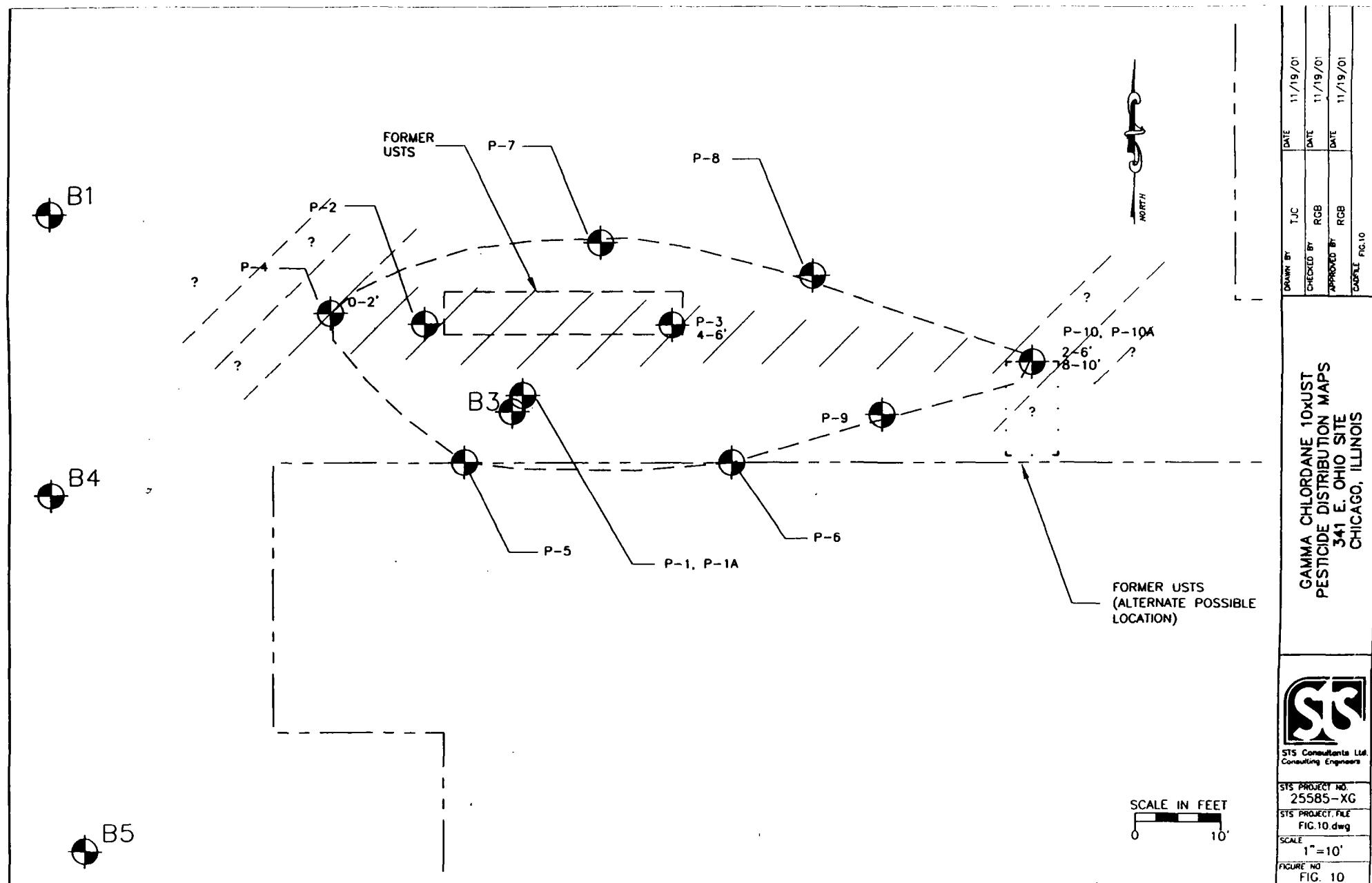












Tables

TABLE 1
IMMUNOASSAY FIELD TEST PESTICIDE DATA
341 E. OHIO SITE

Notes: a - sample diluted 1:100, therefore actual concentration about 80,000 ug/kg

TABLE 1 (cont.)
 IMMUNOASSAY FIELD TEST PESTICIDE DATA
 341 E. OHIO SITE

11/9/01 PM				11/12/2001			
Sample	Depth (ft)	Reading	Est. Conc. (ug/kg)	Sample	Depth (ft)	Reading	Est. Conc. (ug/kg)
Test Standards				Test Standards			
0		2.31	-	0		2.17	-
20		2.06	-	20		1.67	-
100		1.33	-	100		1.08	-
600		0.68	-	600		0.53	-
Samples				Samples			
P6-S1	0 to 2	0.77	340	P7-S1	0 to 2	0.56	580
P6-S2	2 to 4	1.82	35	P7-S2	2 to 4	2.09	5
P6-S3	4 to 6	1.57	50	P7-S3	4 to 6	1.1	95
P6-S4	6 to 8	1.13	200	P7-S4	6 to 8	1.63	20
P6-S5	8 to 10	2.22	10	P7-S5	8 to 10	2.38	0
P1A-S1	8 to 10	1.03	300	P8-S1	0 to 2	0.17	>600
P2-S5	8 to 10	1.71	40	P8-S2	2 to 4	0.78	350
P3-S4	6 to 8	0.59	650	P8-S3	4 to 6	0.91	210
				P8-S4	6 to 8	1.04	125
				P8-S5	8 to 10	1.8	10
				P9-S1	0 to 2	0.14	>600
				P9-S2	2 to 4	2.04	5
				P9-S3	4 to 6	1.25	60
				P9-S4	6 to 8	0.23	>600
				P9-S5	8 to 10	2.28	0
				P10-S1	0 to 2	0.28	>600
				P10-S2	2 to 4	1.54	30
				P10-S3	4 to 6	0.18	>600
				P10-S4	6 to 8	0.24	>600
				P10A-S1	8 to 10	0.13	>600
				P10A-S2	10 to 12	2.00	5

Table 2--Pesticide Analyses
Severn Trent Laboratory

Boring, Sample No.	Depth, ft.	Notes	Chlordane (Tech.) ug/kg	Aldrin ug/kg	alpha-BHC ug/kg	beta-BHC ug/kg	delta-BHC ug/kg	gamma-BHC (Lindane) ug/kg	alpha- Chlordane ug/kg
P-1, S-1	0 to 2	Partial results	54,000						
P-1, S-2	2 to 4	Partial results	19,000						
P-1, S-3	4 to 6	Partial results	18,000						
P-1, S-4	6 to 8	Partial results	34,000						
P-1A, S-1	8 to 10	Partial results	460					46	
P-1A, S-2	10 to 12								107
P-2, S-1	0 to 2	Partial results	120,000						
P-2, S-2	2 to 4		1,000				127		
P-2, S-3	4 to 6							679	
P-2, S-4	6 to 8								274
P-2, S-5	8 to 10								
P-3, S-1	0 to 2		580						
P-3, S-2	2 to 4								
P-3, S-3	4 to 6		2,500	39	223	207	211	1,340	540
P-3, S-4	6 to 8					115		636	486
P-3, S-5	8 to 10		730		145		44		1,620
P-4, S-1	0 to 2		2,300				71		234
P-4, S-2	2 to 4								2,150
P-4, S-3	4 to 6								
P-4, S-4	6 to 8								
P-4, S-5	8 to 10								
P-5, S-1	0 to 2	Partial results	12,000						
P-5, S-2	2 to 4								
P-5, S-3	4 to 6		2,900						
P-5, S-4	6 to 8		1,100						
P-5, S-5	8 to 10								
P-6, S-1	0 to 2		490						
P-6, S-2	2 to 4								
P-6, S-3	4 to 6								
P-6, S-4	6 to 8	Partial results							
P-6, S-5	8 to 10	Partial results							
P-7, S-1	0 to 2								
P-7, S-2	2 to 4								
P-7, S-3	4 to 6								
P-7, S-4	6 to 8								
P-7, S-5	8 to 10								
P-8, S-1	0 to 2		9,200						
P-8, S-2	2 to 4								
P-8, S-3	4 to 6								
P-8, S-4	6 to 8								
P-8, S-5	8 to 10								
P-9, S-1	0 to 2		4,800				41		
P-9, S-2	2 to 4								
P-9, S-3	4 to 6								
P-9, S-4	6 to 8		7,900					1,100	
P-9, S-5	8 to 10								790
P-10, S-1	0 to 2		1,600						
P-10, S-2	2 to 4								
P-10, S-3	4 to 6		22,000	180					
P-10, S-4	6 to 8		9,700	75					
P-10A, S-1	8 to 10		25,000				48		
P-10A, S-2	10 to 12								2,400

Table 2--Pesticide Analyses
Severn Trent Laboratory

Boring, Sample No.	Depth, ft.	Notes	gamma-	4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin	Endrin	Endrin aldehyde	Endrine ketone
			Chlordane ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
P-1, S-1	0 to 2	Partial results								
P-1, S-2	2 to 4	Partial results								
P-1, S-3	4 to 6	Partial results								
P-1, S-4	6 to 8	Partial results								
P-1A, S-1	8 to 10	Partial results		40						
P-1A, S-2	10 to 12			380	83					
P-2, S-1	0 to 2	Partial results								
P-2, S-2	2 to 4			836						
P-2, S-3	4 to 6									
P-2, S-4	6 to 8									
P-2, S-5	8 to 10									98
P-3, S-1	0 to 2			672	420					
P-3, S-2	2 to 4			412	57					
P-3, S-3	4 to 6			3320	405					
P-3, S-4	6 to 8			205						
P-3, S-5	8 to 10			1,550						
P-4, S-1	0 to 2			3,410	780	265	550	85	386	39
P-4, S-2	2 to 4									68
P-4, S-3	4 to 6									35
P-4, S-4	6 to 8									
P-4, S-5	8 to 10									52
P-5, S-1	0 to 2	Partial results								
P-5, S-2	2 to 4				638					
P-5, S-3	4 to 6									
P-5, S-4	6 to 8									
P-5, S-5	8 to 10									
P-6, S-1	0 to 2			652						
P-6, S-2	2 to 4									
P-6, S-3	4 to 6									
P-6, S-4	6 to 8									
P-6, S-5	8 to 10	Partial results								
P-7, S-1	0 to 2									
P-7, S-2	2 to 4									
P-7, S-3	4 to 6									
P-7, S-4	6 to 8									
P-7, S-5	8 to 10									53
P-8, S-1	0 to 2			820						
P-8, S-2	2 to 4									
P-8, S-3	4 to 6									
P-8, S-4	6 to 8									
P-8, S-5	8 to 10									
P-9, S-1	0 to 2			760	93					
P-9, S-2	2 to 4									
P-9, S-3	4 to 6									
P-9, S-4	6 to 8									
P-9, S-5	8 to 10									
P-10, S-1	0 to 2			210						
P-10, S-2	2 to 4									
P-10, S-3	4 to 6									
P-10, S-4	6 to 8									
P-10A, S-1	8 to 10									
P-10A, S-2	10 to 12									

Table 2--Pesticide Analyses
Severn Trent Laboratory

Boring, Sample No.	Depth, ft.	Notes	Heptachlor	Heptachlor epoxide	Endosulfan II	Endosulfan sulfate	Methoxychlor
			ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
P-1, S-1	0 to 2	Partial results					
P-1, S-2	2 to 4	Partial results					
P-1, S-3	4 to 6	Partial results					
P-1, S-4	6 to 8	Partial results					
P-1A, S-1	8 to 10	Partial results	50				
P-1A, S-2	10 to 12		82				
P-2, S-1	0 to 2	Partial results		1,190			
P-2, S-2	2 to 4						
P-2, S-3	4 to 6						
P-2, S-4	6 to 8						
P-2, S-5	8 to 10						
P-3, S-1	0 to 2		679	78			
P-3, S-2	2 to 4		82				
P-3, S-3	4 to 6		3,090	246	106		
P-3, S-4	6 to 8		86	42			
P-3, S-5	8 to 10		73	137	63		221
P-4, S-1	0 to 2		2,800	1,020	115		
P-4, S-2	2 to 4						
P-4, S-3	4 to 6						
P-4, S-4	6 to 8						
P-4, S-5	8 to 10						
P-5, S-1	0 to 2	Partial results		275			
P-5, S-2	2 to 4			3,520			
P-5, S-3	4 to 6			1,570	408		
P-5, S-4	6 to 8						
P-5, S-5	8 to 10						150
P-6, S-1	0 to 2						
P-6, S-2	2 to 4						
P-6, S-3	4 to 6						
P-6, S-4	6 to 8						
P-6, S-5	8 to 10	Partial results					
P-7, S-1	0 to 2						
P-7, S-2	2 to 4						
P-7, S-3	4 to 6						
P-7, S-4	6 to 8						
P-7, S-5	8 to 10	Partial results					
P-8, S-1	0 to 2		680	110			
P-8, S-2	2 to 4						
P-8, S-3	4 to 6						
P-8, S-4	6 to 8						
P-8, S-5	8 to 10						
P-9, S-1	0 to 2		410	68			
P-9, S-2	2 to 4						
P-9, S-3	4 to 6						
P-9, S-4	6 to 8		110	62			
P-9, S-5	8 to 10						
P-10, S-1	0 to 2		220	49			
P-10, S-2	2 to 4						
P-10, S-3	4 to 6						
P-10, S-4	6 to 8		4,100	290			
P-10A, S-1	8 to 10		1,700	120			
P-10A, S-2	10 to 12		4,100	400			

Table 3
Universal Treatment Standards and TCLP Values for Detected Compounds

Detected Compounds	Universal Treatment Standard	10 X UTS (ug/kg)	TCLP (ug/L)	20 X TCLP (ug/L)
Chlordane (Tech.)	ns	ns	30	600
Aldrin	66	660	ns	ns
alpha-BHC	66	660	ns	ns
beta-BHC	66	660	ns	ns
delta-BHC	66	660	ns	ns
gamma-BHC (Lindane)	66	660	400	8000
alpha-Chlordane	260	2600	ns	ns
gamma-Chlordane	260	2600	ns	ns
4,4'-DDD	87	870	ns	ns
4,4'-DDE	87	870	ns	ns
4,4'-DDT	87	870	ns	ns
Dieldrin	130	1300	ns	ns
Endosulfan II	130	1300	ns	ns
Endosulfan sulfate	130	1300	ns	ns
Endrin	130	1300	20	400
Endrin aldehyde	130	1300	ns	ns
Endrin ketone	ns	ns	ns	ns
Heptachlor	66	660	8	160
Heptachlor epoxide	66	660	8	160
Methoxychlor	180	1800	10,000	200,000

ns = not specified

Attachment A

Downhole Gamma Logging Data

GMO Site
Down Hole Field Log – Pesticide Delineation
Project No. 25585XG

Date: 11/8/01

Technician: Brett Barton

Instrument Model No.: Ludlum 2221

Operational Check: 18,100

Serial No: 127242

Probe Model No.: PR 44-10

Serial No.: 168148

Cutoff Value = 7.2 pCi/gm =

* Shielded (2")

18,804 counts per 30 Sec.

P-1A Boring No.: G.2 – 6.5
(Max Depth 9 ft)

Depth - FEET	Counts per 30 Seconds	Depth - FEET	Counts per 30 Seconds
0.5	15917	15.5	
1	13722	16	
1.5	20650	16.5	
2	48743	17	
2.5	21971	17.5	
3	10572	18	
3.5	7797	18.5	
4	9923	19	
4.5	11275	19.5	
5	7512	20	
5.5	6691	20.5	
6	7773	21	
6.5	9629	21.5	
7	9276	22	
7.5	6141	22.5	
8	4374	23	
8.5	4151	23.5	
9	4585	24	
9.5		24.5	
10		25	
10.5		25.5	
11		26	
11.5		26.5	
12		27	
12.5		27.5	
13		28	
13.5		28.5	
14		29	
14.5		29.5	
15		30	

GMO Site
Down Hole Field Log – Pesticide Delineation
Project No. 25585XG

Date: 11/8/01

Technician: Brett Barton

Instrument Model No.: Ludlum 2221

Operational Check: 18,100

Serial No: 127242

Probe Model No.: PR 44-10

Serial No.: 168148

Cutoff Value = 7.2 pCi/gm =

* Shielded (2")

18,804 counts per 30 Sec.

P-2 Boring No.: G.8 – 5.8
(Max Depth 9.5 ft)

Depth – FEET	Counts per 30 Seconds	Depth – FEET	Counts per 30 Seconds
0.5	5229	15.5	
1	7471	16	
1.5	14640	16.5	
2	23960	17	
2.5	42825	17.5	
3	92894	18	
3.5	47746	18.5	
4	17639	19	
4.5	7861	19.5	
5	6083	20	
5.5	5553	20.5	
6	6827	21	
6.5	6066	21.5	
7	6307	22	
7.5	5414	22.5	
8	4315	23	
8.5	3193	23.5	
9	2966	24	
9.5	2898	24.5	
10		25	
10.5		25.5	
11		26	
11.5		26.5	
12		27	
12.5		27.5	
13		28	
13.5		28.5	
14		29	
14.5		29.5	
15		30	

GMO Site
Down Hole Field Log – Pesticide Delineation
Project No. 25585XG

Date: 11/8/01

Technician: Brett Barton

Instrument Model No.: Ludlum 2221

Operational Check: 18,100

Serial No: 127242

Probe Model No.: PR 44-10

Serial No.: 168148

Cutoff Value = 7.2 pCi/gm =

* Shielded (2")

18,804 counts per 30 Sec.

P-3 Boring No.: G.7 – 7.6
(Max Depth 10.5 ft)

Depth - FEET	Counts per 30 Seconds	Depth - FEET	Counts per 30 Seconds
0.5	3876	15.5	
1	5446	16	
1.5	6451	16.5	
2	6791	17	
2.5	6994	17.5	
3	7084	18	
3.5	7248	18.5	
4	7270	19	
4.5	7422	19.5	
5	6574	20	
5.5	5006	20.5	
6	3183	21	
6.5	2726	21.5	
7	2536	22	
7.5	2395	22.5	
8	2242	23	
8.5	2858	23.5	
9	3670	24	
9.5	4061	24.5	
10	4414	25	
10.5	4230	25.5	
11		26	
11.5		26.5	
12		27	
12.5		27.5	
13		28	
13.5		28.5	
14		29	
14.5		29.5	
15		30	

GMO Site
Down Hole Field Log – Pesticide Delineation
Project No. 25585XG

Date: 11/9/01

Technician: Brett Barton

Instrument Model No.: Ludlum 2221

Operational Check: 17,980

Serial No: 127242

Probe Model No.: PR 44-10

Serial No.: 168148

Cutoff Value = 7.2 pCi/gm =

* Shielded (2")

18,804 counts per 30 Sec.

P-4 Boring No.: H – 5.1
(Max Depth 9.5 ft)

Depth - FEET	Counts per 30 Seconds	Depth - FEET	Counts per 30 Seconds
0.5	4576	15.5	
1	12322	16	
1.5	32252	16.5	
2	49919	17	
2.5	23872	17.5	
3	12214	18	
3.5	7826	18.5	
4	7528	19	
4.5	5983	19.5	
5	4151	20	
5.5	3768	20.5	
6	4500	21	
6.5	2716	21.5	
7	3696	22	
7.5	3658	22.5	
8	2992	23	
8.5	2630	23.5	
9	2424	24	
9.5	2497	24.5	
10		25	
10.5		25.5	
11		26	
11.5		26.5	
12		27	
12.5		27.5	
13		28	
13.5		28.5	
14		29	
14.5		29.5	
15		30	

GMO Site
Down Hole Field Log – Pesticide Delineation
Project No. 25585XG

Date: 11/9/01

Technician: Brett Barton

Instrument Model No.: Ludlum 2221

Operational Check: 17,980

Serial No: 127242

Probe Model No.: PR 44-10

Serial No.: 168148

Cutoff Value = 7.2 pCi/gm =

* Shielded (2")

18,804 counts per 30 Sec.

P-5 Boring No.: F.7 – 6.2
(Max Depth 7.5 ft)

Depth - FEET	Counts per 30 Seconds	Depth - FEET	Counts per 30 Seconds
0.5	8965	15.5	
1	13105	16	
1.5	19438	16.5	
2	12996	17	
2.5	10243	17.5	
3	10557	18	
3.5	10628	18.5	
4	10172	19	
4.5	9182	19.5	
5	8573	20	
5.5	7781	20.5	
6	5086	21	
6.5	2431	21.5	
7	1822	22	
7.5	1677	22.5	
8		23	
8.5		23.5	
9		24	
9.5		24.5	
10		25	
10.5		25.5	
11		26	
11.5		26.5	
12		27	
12.5		27.5	
13		28	
13.5		28.5	
14		29	
14.5		29.5	
15		30	

GMO Site
Down Hole Field Log – Pesticide Delineation
Project No. 25585XG

Date: 11/9/01

Technician: Brett Barton

Instrument Model No.: Ludlum 2221

Operational Check: 17,980

Serial No: 127242

Probe Model No.: PR 44-10

Serial No.: 168148

Cutoff Value = 7.2 pCi/gm =

* Shielded (2")

18,804 counts per 30 Sec.

P-6 Boring No.: F.7 – 7.8
(Max Depth 9 ft)

Depth - FEET	Counts per 30 Seconds	Depth - FEET	Counts per 30 Seconds
0.5	5673	15.5	
1	11939	16	
1.5	35425	16.5	
2	105212	17	
2.5	42197	17.5	
3	20084	18	
3.5	12740	18.5	
4	9295	19	
4.5	8344	19.5	
5	9926	20	
5.5	17554	20.5	
6	26817	21	
6.5	50557	21.5	
7	57546	22	
7.5	15423	22.5	
8	4002	23	
8.5	2351	23.5	
9	2292	24	
9.5		24.5	
10		25	
10.5		25.5	
11		26	
11.5		26.5	
12		27	
12.5		27.5	
13		28	
13.5		28.5	
14		29	
14.5		29.5	
15		30	

GMO Site
Down Hole Field Log – Pesticide Delineation
Project No. 25585XG

Date: 11/12/01

Technician: Brett Barton

Instrument Model No.: Ludlum 2221

Operational Check: 18,000

Serial No: 127242

Probe Model No.: PR 44-10

Serial No.: 168148

Cutoff Value = 7.2 pCi/gm =

* Shielded (2")

18,804 counts per 30 Sec.

P-7 Boring No.: H.3 – 6.9
(Max Depth 9.3 ft)

Depth - FEET	Counts per 30 Seconds	Depth - FEET	Counts per 30 Seconds
0.5	2973	15.5	
1	6861	16	
1.5	8367	16.5	
2	5467	17	
2.5	4933	17.5	
3	4513	18	
3.5	4284	18.5	
4	4914	19	
4.5	5269	19.5	
5	4589	20	
5.5	6229	20.5	
6	8030	21	
6.5	5926	21.5	
7	4624	22	
7.5	4647	22.5	
8	4906	23	
8.5	4540	23.5	
9	3500	24	
9.3	3088	24.5	
10		25	
10.5		25.5	
11		26	
11.5		26.5	
12		27	
12.5		27.5	
13		28	
13.5		28.5	
14		29	
14.5		29.5	
15		30	

GMO Site
Down Hole Field Log – Pesticide Delineation
Project No. 25585XG

Date: 11/12/01

Instrument Model No.: Ludlum 2221

Technician: Brett Barton

Operational Check: 18,000

Serial No.: 12742

Probe Model No.: PR 44-10

Serial No.: 168148

Cutoff Value = 7.2 pCi/gm =

* Shielded (2")

18,804 counts per 30 Sec.

P-8 Boring No.: H.3 – 8.5
(Max Depth 9.5 ft)

Depth - FEET	Counts per 30 Seconds	Depth - FEET	Counts per 30 Seconds
0.5	2339	15.5	
1	3472	16	
1.5	8232	16.5	
2	9382	17	
2.5	9077	17.5	
3	6542	18	
3.5	5562	18.5	
4	5449	19	
4.5	5497	19.5	
5	4721	20	
5.5	5068	20.5	
6	6555	21	
6.5	4570	21.5	
7	3541	22	
7.5	3525	22.5	
8	4113	23	
8.5	3713	23.5	
9	3365	24	
9.5	2901	24.5	
10		25	
10.5		25.5	
11		26	
11.5		26.5	
12		27	
12.5		27.5	
13		28	
13.5		28.5	
14		29	
14.5		29.5	
15		30	

GMO Site
Down Hole Field Log – Pesticide Delineation
Project No. 25585XG

Date: 11/12/01

Technician: Brett Barton

Instrument Model No.: Ludlum 2221

Operational Check: 18,000

Serial No: 127242

Probe Model No.: PR 44-10

Serial No.: 168148

Cutoff Value = 7.2 pCi/gm =
18,804 counts per 30 Sec.

* Shielded (2")

P-9 Boring No.: G – 8.9
(Max Depth 9 ft)

Depth - FEET	Counts per 30 Seconds	Depth - FEET	Counts per 30 Seconds
0.5	3287	15.5	
1	6269	16	
1.5	7819	16.5	
2	7917	17	
2.5	7825	17.5	
3	7670	18	
3.5	7926	18.5	
4	8023	19	
4.5	7941	19.5	
5	7613	20	
5.5	7445	20.5	
6	6236	21	
6.5	4627	21.5	
7	3487	22	
7.5	3360	22.5	
8	4770	23	
8.5	7614	23.5	
9	6926	24	
9.5		24.5	
10		25	
10.5		25.5	
11		26	
11.5		26.5	
12		27	
12.5		27.5	
13		28	
13.5		28.5	
14		29	
14.5		29.5	
15		30	

GMO Site
Down Hole Field Log – Pesticide Delineation
Project No. 25585XG

Date: 11/12/01

Technician: Brett Barton

Instrument Model No.: Ludlum 2221

Operational Check: 18,000

Serial No: 127242

Probe Model No.: PR 44-10

Serial No.: 168148

Cutoff Value = 7.2 pCi/gm =

* Shielded (2")

18,804 counts per 30 Sec.

P-10A Boring No.: G.5 – 10
(Max Depth 9.5 ft)

Depth - FEET	Counts per 30 Seconds	Depth - FEET	Counts per 30 Seconds
0.5	5633	15.5	
1	7809	16	
1.5	9485	16.5	
2	10690	17	
2.5	9455	17.5	
3	7995	18	
3.5	8512	18.5	
4	8778	19	
4.5	8383	19.5	
5	6063	20	
5.5	5505	20.5	
6	5701	21	
6.5	5614	21.5	
7	5809	22	
7.5	4869	22.5	
8	4854	23	
8.5	4318	23.5	
9	5853	24	
9.5	7841	24.5	
10		25	
10.5		25.5	
11		26	
11.5		26.5	
12		27	
12.5		27.5	
13		28	
13.5		28.5	
14		29	
14.5		29.5	
15		30	

GMO Site
DOWNHOLE FIELD LOG
Project #25585XG

Date: 8-20-2001
Instrument Model # Ludlum 2221
Serial # 132844
Probe Model # PR 44-10
Serial # 168144

• Shielded (2")

Technician: Brett Barton
Operational Check: 18700cpm
Cutoff Value = 7.2pCi/gm =
18,059 counts per 30 Sec.

Boring # B-3 / Location G.25 - 6.5 (Max Depth 8.5ft)

Depth - FEET	Counts per 30 Seconds	Depth - FEET	Counts per 30 Seconds
0.5	17353	15.5	
1	23827	16	
1.5	21717	16.5	
2	27851	17	
2.5	23637	17.5	
3	18913	18	
3.5	10646	18.5	
4	9758	19	
4.5	11221	19.5	
5	12070	20	
5.5	8035	20.5	
6	7309	21	
6.5	8629	21.5	
7	8208	22	
7.5	6382	22.5	
8	4830	23	
8.5	4074	23.5	
9		24	
9.5		24.5	
10		25	
10.5		25.5	
11		26	
11.5		26.5	
12		27	
12.5		27.5	
13		28	
13.5		28.5	
14		29	
14.4		29.5	
15		30	